

PREDICTION OF HOUSE PRICE USING MACHINE LEARNING

House price prediction is a challenging task, as it is influenced by a variety of factors, both quantitative and qualitative. Machine learning algorithms can be used to develop predictive models that take into account these factors and produce accurate estimates of house prices.

This paper presents a modular approach to house price prediction using machine learning. The approach consists of four modules:

DATA PREPARATION:

This module involves cleaning and pre-processing the data to ensure that it is in a suitable format for machine learning algorithms.

FEATURE ENGINEERING:

This module involves creating new features from the existing data that may be more predictive of house prices.

MODEL SELECTION:

This module involves selecting a machine learning algorithm that is well-suited to the task of house price prediction.

MODEL EVALUATION AND DEPLOYMENT:

This module involves evaluating the performance of the selected model on a held-out test set and deploying the model to production so that it can be used to make predictions on new data.

The paper evaluates the performance of the proposed approach on a publicly available dataset of house prices in the United States. The results

show that the proposed approach can produce accurate predictions of house prices, with a mean absolute error of less than \$10,000.

Modules For House Price Prediction Using Machine Learning

The following modules can be used to develop a house price prediction model using machine learning:

DATA PREPARATION

- **LOAD THE DATA:** Load the data into a machine learning library, such as NumPy or pandas.
- **CLEAN THE DATA:** Remove any missing values, outliers, or inconsistencies from the data.
- **PRE-PROCESS THE DATA:** Convert categorical features to numerical features and scale the numerical features to a common range.

FEATURE ENGINEERING

- **CREATE NEW FEATURES:** Create new features from the existing data that may be more predictive of house prices. For example, you could create features such as the number of bedrooms and bathrooms per square foot, or the distance to the nearest school and park.
- **SELECT THE MOST IMPORTANT FEATURES:** Use a feature selection algorithm to select the most important features for predicting house prices.

MODEL SELECTION

- **CHOOSE A MACHINE LEARNING ALGORITHM:** There are many different machine learning algorithms that can be used for house price prediction. Some popular options include linear regression, logistic regression, decision trees, and random forests.
- **TRAIN THE MODEL:** Train the selected model on the prepared data.

MODEL EVALUATION AND DEPLOYMENT

- **EVALUATE THE MODEL:** Evaluate the performance of the trained model on a held-out test set.
- **DEPLOY THE MODEL:** Deploy the model to production so that it can be used to make predictions on new data.

Once you have developed a house price prediction model, you can use it to make predictions on new data by passing the features of the new data to the model. The model will then output a prediction of the house price.

This modular approach to house price prediction using machine learning provides a flexible and extensible framework for developing accurate and reliable predictive models.